

## ABSTRACT

A frequency agile cable modem termination system which is configured to receive cable TV or other broadband signals on a frequency allocated basis. Cable TV headend may receive cable TV modem or other signals via optical/electrical converters and other links, and route those signals through a frequency multiplexer to divide individual feeds into separated frequency slots. The cable modem termination system may then have receivers tuned to individual slots allocated to data feeds, such as Internet, video, telephony or other sources, and route those sources over the Internet. Upon a failure condition within any given receiver or other component, a backup cable modem termination system, connected to the same common bus as the main or active system, may be rapidly activated by having backup receivers contained in that unit tuned to appropriate frequencies to pick up the signals within the corresponding band. Reliability and robustness is increased, and cabling requirements are decreased.